Section 1. Registration Information

Source Identification

Facility Name:	Costco Wholesale - Tolleson
Parent Company #1 Name:	Costco Wholesale Corp.
Parent Company #2 Name:	

Submission and Acceptance

Submission Type:	Re-submission
Subsequent RMP Submission Reason:	5-year update (40 CFR 68.190(b)(1))
Description:	
Receipt Date:	30-Jul-2010
Postmark Date:	30-Jul-2010
Next Due Date:	30-Jul-2015
Completeness Check Date:	30-Jul-2010
Complete RMP:	Yes
De-Registration / Closed Reason:	
De-Registration / Closed Reason Other Text:	
De-Registered / Closed Date:	
De-Registered / Closed Effective Date:	
Certification Received:	Yes

Facility Identification

EPA Facility Identifier:	1000 0017 1404
Other EPA Systems Facility ID:	

Dun and Bradstreet Numbers (DUNS)

Facility DUNS:	
Parent Company #1 DUNS:	
Parent Company #2 DUNS:	

Facility Location Address

Street 1:	8400 W. Sherman St.
Street 2:	
City:	Tolleson
State:	ARIZONA
ZIP:	85353
ZIP4:	
County:	MARICOPA

Facility Latitude and Longitude

Latitude (decimal):	33.441390
Longitude (decimal):	-112.241783
Lat/Long Method:	Interpolation - Digital map source (TIGER)
Lat/Long Description:	Storage Tank
Horizontal Accuracy Measure:	100
Horizontal Reference Datum Name:	North American Datum of 1983
Source Map Scale Number:	

Owner or Operator

Operator Name:	Costco Wholesale
Operator Phone:	(623) 293-1100

Mailing Address

Operator Street 1:	8400 W. Sherman St.
Operator Street 2:	
Operator City:	Tolleson
Operator State:	ARIZONA
Operator ZIP:	85353
Operator ZIP4:	
Operator Foreign State or Province:	
Operator Foreign ZIP:	
Operator Foreign Country:	

Name and title of person or position responsible for Part 68 (RMP) Implementation

RMP Name of Person:	John Pemberton
RMP Title of Person or Position:	Depot Manager
RMP E-mail Address:	d936mgr@costco.com

Emergency Contact

Emergency Contact Name:	John Pemberton
Emergency Contact Title:	Depot Manager
Emergency Contact Phone:	(623) 293-1100
Emergency Contact 24-Hour Phone:	(623) 764-4649
Emergency Contact Ext. or PIN:	
Emergency Contact E-mail Address:	d936mgr@costco.com

Other Points of Contact

Facility or Parent Company E-mail Address:	d936mgr2@costco.com
Facility Public Contact Phone:	
Facility or Parent Company WWW Homepage Address:	www.costco.com

Local Emergency Planning Committee

LEPC:	Maricopa County LEPC

Full Time Equivalent Employees

Number of Full Time Employees (FTE) on Site:	150
FTE Claimed as CBI:	

Covered By

OSHA PSM :	Yes
EPCRA 302 :	Yes
CAA Title V:	
Air Operating Permit ID:	

OSHA Ranking

OSHA Star or Merit Ranking:

Last Safety Inspection

Last Safety Inspection (By an External Agency) Date:	24-Sep-2009
Last Safety Inspection Performed By an External Agency:	Tolleson Fire Department

Predictive Filing

Did this RMP involve predictive filing?:

Preparer Information

Preparer Name:	SCS Tracer Environmental
Preparer Phone:	(760) 744-9611
Preparer Street 1:	970 Los Vallecitos Blvd.
Preparer Street 2:	Suite 100
Preparer City:	San Marcos
Preparer State:	CALIFORNIA
Preparer ZIP:	92069
Preparer ZIP4:	
Preparer Foreign State:	
Preparer Foreign Country:	
Preparer Foreign ZIP:	

Confidential Business Information (CBI)

CBI Claimed:
Substantiation Provided:
Unsanitized RMP Provided:

Reportable Accidents

Reportable Accidents: See Section 6. Accident History below to determine if there were any accidents reported for this RMP.

Process Chemicals

Process ID:	1000018860
Description:	Ammonia Refrigeration
Process Chemical ID:	1000022435
Program Level:	Program Level 3 process
Chemical Name:	Ammonia (anhydrous)
CAS Number:	7664-41-7
Quantity (lbs):	18000
CBI Claimed:	
Flammable/Toxic:	Toxic

Process NAICS

Process ID:	1000018860
Process NAICS ID:	1000019205
Program Level:	Program Level 3 process
NAICS Code:	49312
NAICS Description:	Refrigerated Warehousing and Storage

Section 2. Toxics: Worst Case

Toxic Worst ID: 1000014938

Percent Weight:	
Physical State:	Gas liquified by pressure
Model Used:	EPA's General Guidance on Risk Management Programs for Chemical Accident Prevention
Release Duration (mins):	10
Wind Speed (m/sec):	1.5
Atmospheric Stability Class:	F
Topography:	Urban

Passive Mitigation Considered

Dikes:	
Enclosures:	Yes
Berms:	
Drains:	
Sumps:	
Other Type:	

Section 3. Toxics: Alternative Release

Toxic Alter ID: 1000016449

Percent Weight:	
Physical State:	Gas liquified by pressure
Model Used:	EPA's General Guidance on Risk Management Programs for Chemical Accident Prevention
Wind Speed (m/sec):	3.0
Atmospheric Stability Class:	D
Topography:	Urban

Passive Mitigation Considered

Dikes:	
Enclosures:	
Berms:	
Drains:	
Sumps:	
Other Type:	

Active Mitigation Considered

Sprinkler System:	
Deluge System:	
Water Curtain:	
Neutralization:	
Excess Flow Valve:	
Flares:	
Scrubbers:	
Emergency Shutdown:	Yes
Other Type:	

Section 4. Flammables: Worst Case

No records found.

Section 5. Flammables: Alternative Release

No records found.

Section 6. Accident History

No records found.

Section 7. Program Level 3

Description

No description available.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000018617
Chemical Name:	Ammonia (anhydrous)
Flammable/Toxic:	Toxic
CAS Number:	7664-41-7

Prevention Program Level 3 ID:	1000015555
NAICS Code:	49312

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	12-Feb-2010

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	21-Jul-2010

The Technique Used

What If:	
Checklist:	Yes
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	01-Jul-2011

Major Hazards Identified

Toxic Release:	Yes
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes
Contamination:	Yes
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	
Floods (Flood Plain):	

Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	
Emergency Power:	
Backup Pump:	Yes
Grounding Equipment:	
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	mechanical float switches

Mitigation Systems in Use

Sprinkler System:	Yes
Dikes:	
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	Yes
Neutralization:	
None:	
Other Mitigation System in Use:	water diffusion tank

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	
None:	
Other Monitoring/Detection System in Use:	

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	

Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	revision of maintenance & emergency response procedures

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	30-Sep-2009

Training

Training Revision Date (The date of the most recent review or revision of training programs):	26-Jul-2010

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	12-Feb-2010
Equipment Inspection Date (The date of the most recent equipment inspection or test):	16-Jul-2010
Equipment Tested (Equipment most recently inspected or tested):	refrigeration engine room equipment

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	17-May-2010
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	12-Apr-2007

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	23-Jul-2000

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	30-Sep-2009
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	31-Jul-2010

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	29-Jun-2000

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	20-Jan-2005

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	12-Dec-2007
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	21-Jul-2010

Confidential Business Information

CBI Claimed:	

Section 8. Program Level 2

Section 9. Emergency Response

Written Emergency Response (ER) Plan

Community Plan (Is facility included in written community emergency response plan?):	Yes
Facility Plan (Does facility have its own written emergency response plan?):	
Response Actions (Does ER plan include specific actions to be taken in response to accidental releases of regulated substance(s)?):	
Public Information (Does ER plan include procedures for informing the public and local agencies responding to accidental release?):	
Healthcare (Does facility's ER plan include information on emergency health care?):	

Emergency Response Review

Review Date (Date of most recent review or update of facility's ER plan):	

Emergency Response Training

Training Date (Date of most recent review or update of facility's employees):	

Local Agency

Agency Name (Name of local agency with which the facility ER plan or response activities are coordinated):	Tolleson Fire Department
Agency Phone Number (Phone number of local agency with which the facility ER plan or response activities are coordinated):	(623) 936-8500

Subject to

OSHA Regulations at 29 CFR 1910.38:	Yes
OSHA Regulations at 29 CFR 1910.120:	
Clean Water Regulations at 40 CFR 112:	
RCRA Regulations at CFR 264, 265, and 279.52:	
OPA 90 Regulations at 40 CFR 112, 33 CFR 154, 49 CFR 194, or 30 CFR 254:	
State EPCRA Rules or Laws:	Yes
Other (Specify):	

Executive Summary

ACCIDENTAL RELEASE PREVENTION AND EMERGENCY RESPONSE POLICIES

Costco Wholesale is committed to safety. This commitment is enforced through the corporate safety group. This group monitors the on-site implementation of the Process Safety Management programs through periodic meetings at each regulated facility. In addition, the corporate safety group in conjunction with the local Depot Manager are responsible for maintaining a safety and environmental program to promote a safe environment for all employees and the surrounding communities. This policy is administered through Costco Wholesale's safety and environmental programs. These programs include forklift safety, hazard communications, lockout / tagout, Hazardous Materials Emergency Business Plan, employee safety manuals, manufacturers' documentation, as well as the Risk Management Plan.

The Costco Wholesale facility has an emergency action plan in effect. The Emergency Action Plan (Plan) is detailed in the Emergency Planning and Response section of the PSM/RMP document which is maintained at the facility. This Plan was designed to meet the following objectives:

- To save lives.
- To minimize and avoid injuries.
- To protect the environment.
- To minimize property damage.

The Plan provides the response organization and notification procedures, evacuation routes, ammonia health hazards, and mitigation procedures which will be implemented to respond effectively to emergency situations that may arise at the facility.

STATIONARY SOURCE AND REGULATED SUBSTANCE

Construction of the ammonia refrigeration system at Costco Wholesale was completed in July 2000. The facility serves as a distribution point for chilled goods that are shipped to Costco Wholesale retail outlets. The facility is located at 8400 Sherman Street in Tolleson, Arizona, about 1.5 miles south of the Interstate 10 freeway. The immediate area is a mixture of agricultural, residential, light industrial and light commercial. The ammonia system was constructed in accordance with all applicable federal, state, and local regulations including the Uniform Fire and Mechanical Codes.

The ammonia refrigeration system uses approximately 18,000 pounds of ammonia for cross dock operations, warehouse cold storage, and freezer storage. The majority of the system is located in the machine room including vessels, compressors, and associated piping. The condensers are mounted on the engine room roof, and all of the evaporators are located in their respective cold storage rooms/areas.

The refrigeration cycle begins with the transfer of high pressure liquid ammonia from the high pressure receiver to the high temperature pump accumulator. The high pressure receiver also supplies liquid ammonia to the compressors for oil cooling. As the ammonia enters the high temperature pump accumulator, it is expanded through a hand expansion valve, reducing the pressure (and hence the temperature) in order to maintain a predetermined internal pressure. The high temperature pump accumulator feeds a similar vessel that maintains an intermediate pressure, the medium temperature pump accumulator. The pressure is further reduced between the medium temperature accumulator and the low temperature pump accumulator. Each accumulator vessel supplies pumped liquid ammonia to a distinct set of evaporators. The high temperature accumulator serves sixteen (16) cross dock/cold storage evaporators. The medium temperature accumulator typically serves eight (8) +28Â°F meat cooler evaporators (that can also be supplied by the high temperature accumulator as needed), and the low temperature accumulator serves six (6) -10Â°F freezer evaporators. Fans in each evaporator are used to blow air across and through the coils which partially vaporizes the liquid ammonia as heat from the room is transferred to the ammonia.

The resulting two-phased (liquid/vapor) ammonia from each set of evaporators is returned to each accumulator respectively in which constant pressures (temperatures) are maintained based on the suction pressure of the corresponding compressors. The vapor from the accumulators is then drawn to seven (7) compressors where the pressure and temperature of the gas is increased. All seven compressors work in combination to compress the vapor pulled from the three accumulator vessels. Compressor discharge (high pressure ammonia vapor, or hot gas) is routed to three (3) condensers where it is condensed to a high pressure

liquid and drained back to the high pressure receiver. Hot gas is also used for defrost of the freezer and meat evaporators. An auto purger periodically purges the system of non-condensibles collected in the condensers. Dual pressure relief valve assemblies are installed on each vessel to relieve high pressure ammonia to a water diffusion tank through a common header in case of a high pressure event.

ACCIDENTAL RELEASE PREVENTION PROGRAM AND CHEMICAL-SPECIFIC PREVENTION STEPS

The Costco Wholesale ammonia refrigeration system has many safety features. Much of the safety of the system is inherent in the policies and procedures that govern the operation of the system. For example, the Costco Wholesale facility operates in accordance with OSHA's Process Safety Management regulation. Refrigeration contractors, experts in the ammonia refrigeration industry, are contracted at the facility to maintain the system.

The Costco Wholesale facility including the ammonia system was designed and constructed in accordance with the Uniform Mechanical Code which specifically outlines requirements for the safe operation of the ammonia refrigeration system. These safety features include a water diffusion tank, ammonia leak detectors in the machine room and the cold storage warehouse, and automatic shut down systems. In addition, the majority of the ammonia is maintained inside the machine room and just outside of the machine room (condensers). All pressure vessels are equipped with pressure relief valves that are commonly piped to the water diffusion tank.

Ammonia refrigeration systems do not experience any chemical reactions or internal corrosion. The only composition change that occurs within the systems are phase changes, as ammonia is cycled through various stages of liquid and vapor, similar to a household refrigerator. The refrigeration system is a closed-loop system without any regular emissions or releases. Any leaks are noted and repaired immediately.

In addition to the Uniform Mechanical Code, Costco Wholesale has developed a preventive maintenance program that utilizes the services of a professional refrigeration contractor to complete regularly scheduled inspections and tests of the ammonia refrigeration system as well as repairs as needed to process equipment. This program is implemented throughout the company.

FIVE YEAR ACCIDENT HISTORY

The Costco Wholesale facility has not had any reportable ammonia releases during the past 5 years (July 2005 - July 2010). No injuries have occurred at the facility due to the operation of the ammonia refrigeration process.

EMERGENCY RESPONSE PROGRAM

Costco Wholesale has an emergency action plan in effect at the facility. The Emergency Action Plan (Plan) is detailed in the Emergency Planning and Response section of the PSM/RMP document, which is maintained at the facility. Emergency response activities are coordinated with the local Tolleson Fire Department. In case of a major ammonia emergency, the facility will first call 9-1-1 to alert the local Police and Fire Departments. Other responders will be called as needed, including the county Hazardous Materials Response Team. If a release exceeds the federal reporting quantity of 100 pounds for ammonia, the National Response Center will be called.

The Costco Wholesale facility has an Emergency Command System in place. The Depot Manager will assume command in an emergency situation with backup personnel appointed to serve if he/she is not available. Costco Wholesale maintains a safety committee whose members include the designated emergency coordinators for the facility including the maintenance manager and the assistant depot managers. The Plan provides the response organization and notification procedures, evacuation routes, ammonia health hazards, and mitigation procedures which will be implemented to respond effectively to emergency situations that may arise at the facility. The facility holds evacuation drills at least once per year.

PLANNED CHANGES TO IMPROVE SAFETY

The facility has worked to address safety issues as they arise in a continued effort to ensure a safe work environment. A Compliance Audit was completed in Septebmer 2009 and a PHA Revalidation was completed in July 2010 that generated recommendations to improve safety at the facility. These include reviewing and updating P&IDs, implement safety evaluation policies for contractors and to continue improving the preventive maintenance procedures. Costco Wholesale is proceeding with the few remaining mitigation measures associated with these studies.

The corporate safety group has also implemented an annual program to review the PSM and RMP programs at each of the facilities to ensure on-going compliance with the Process Safety Management and Risk Management Programs.